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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,897	02/07/2001	Nobutaka Taniguchi	100353-00039	4758

7590 11/18/2003

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EXAMINER

NGUYEN, LINH M

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/777,897	TANIGUCHI, NOBUTAKA
Examiner	Art Unit	
Linh M. Nguyen	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 11 September 2003.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-8 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-8 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) The translation of the foreign language provisional application has been received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____ .

## DETAILED ACTION

This Office Action is a response to the Applicant's response filed 04/24/2003. Claims 1-8 are currently presented in the instant application.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claim 1, the recitation of "*the step of: increasing the delay time...*", lines 6-12 fails to enable one skills in the art since the specification does not describe a one-step method.

As to claim 3, the recitation of "*the step of: adjusting said delay time so that...*", lines 6-12 fails to enable one skills in the art since the specification does not describe a one-step method.

As to claim 3, the recitation "*the adjusting of said delay is irrespective of said comparison when starting the step of adjusting of said delay*", in lines 11-12, is not described in the specification. Such limitation makes the claimed invention unclear, and as such, it creates difficulty in distinguishing the claimed invention with the prior art. A full explanation is required to clarify the claimed invention.

As to claims 4 and 6, the recitation "*the steps of judging and delaying are irrespective of said comparison when starting the delay time adjustment*", in lines 14-15 of claim 4, lines 15-16

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of claim 6, is not described in the specification. Such limitation makes the claimed invention unclear, and as such, it creates difficulty in distinguishing the claimed invention with the prior art. A full explanation is required to clarify the claimed invention.

As to claim 7, the recitation "*the steps of delaying, phase detecting, and adjusting are irrespective of said comparison when starting the delay time adjustment*", in lines 16-18, is not described in the specification. Such limitation makes the claimed invention unclear, and as such, it creates difficulty in distinguishing the claimed invention with the prior art. A full explanation is required to clarify the claimed invention.

Claim 8 is also rejected under 35 U.S.C. 112, first paragraph, because of its dependency on claim 7.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, the recitation of "*increasing the delay time in response to ...*" renders the claim indefinite since it is unclear as to how the step of increasing said delay time is carried out without a step of comparing the signals. Clarification is required.

As to claim 3, the term "*irrespective*" in "*the adjusting of said delay is irrespective of said comparison when starting the step of adjusting of said delay*", in lines 11-12, renders the claim indefinite as it is unclear how delaying adjustment is irrespective of the comparison when

starting time adjustment is performed. As shown in figure 5 of the claimed invention, the delay adjustment is performed (*via [24]*) after the process of comparison (*performed by [8]*). Clarification is required.

As to claim 3, the recitation of “*adjusting a delay time ...*”, starting in line 1, renders the claim indefinite as it is unclear why the step of adjusting has already recited herein and then again in line 6, “*adjusting said delay time so that...*”. Clarification is required.

As to claim 3, the recitation of “*adjusting said delay time so that...*” renders the claim indefinite since it is unclear as to how the step of adjusting said delay time is carried out without a step of comparing the signals. Clarification is required.

As to claims 4 and 6, the term “*irrespective*” in “*the steps of judging and delaying are irrespective of said comparison when starting the delay time adjustment*”, in lines 14-15 of claim 4, lines 15-16 of claim 6, renders the claim indefinite as it is unclear how delaying adjustment is irrespective of the comparison when starting time adjustment is performed. As shown in figure 5 of the claimed invention, the delay adjustment is performed (*via [24]*) after the process of comparison (*performed by [8]*). Clarification is required.

As to claim 7, the term “*irrespective*” in “*the steps of delaying, phase detecting, and adjusting are irrespective of said comparison when starting the delay time adjustment*”, in lines 16-18, renders the claim indefinite as it is unclear how delaying adjustment is irrespective of the comparison when starting time adjustment is performed. As shown in figure 5 of the claimed invention, the delay adjustment is performed (*via [24]*) after the process of comparison (*performed by [8]*). Clarification is required.

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Claim 8 is also rejected under 35 U.S.C. 112, second paragraph, because of its dependency on claim 7.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art (AAPA) (Fig. 1).

With respect to claim 1, AAPA, Fig. 1, discloses a delay time adjusting circuit with a corresponding method of adjusting a delay time of an input signal [input] so that a phase of the input signal and a phase of an output signal [output] match each other, based on a comparison between phases of the input signal and the output signal, the method comprises the step of increasing the delay time in response to a signal [out, *resulted from the comparison to start the step of adjusting either to increase or decrease the delay time*] which indicates a start of adjusting the delay time to adjust the phase of the output signal.

With respect to claim 2, AAPA, Fig. 1, discloses that the method further comprises a step of producing the output signal by delaying the input signal by a DLL circuit [DLL array].

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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8. Claims 3-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Lu (U.S. Patent No. 6,100,735).

With respect to claim 3, as best understood, Figures 1 and 7A-C of Lu show a respective adjusting method for adjusting a delay time of an input [ICLK] first periodic signal so that a phase of the input first periodic signal and a phase of an output second periodic signal match each other based on a comparison between phases of the input first periodic signal and the input second periodic signal; the method comprises a step of adjusting [18] the delay time so that when a phase of a predetermined rising edge of the output second periodic signal is behind a phase of a predetermined rising edge of the input first periodic signal, the predetermined rising edge of the output second periodic signal matches a rising edge of the input first periodic signal, and a phase of the rising edge is behind and nearest to the phase of the predetermined rising edge of the output second periodic signal.

With respect to claims 4 and 6, as best understood, Figures 1 and 7A-C of Lu show a delay adjusting circuit for adjusting a delay time of an input [ICLK] first periodic signal so that a phase of the input first periodic signal and a phase of an output [DCLK] second periodic period match each other based on a comparison between phases of the input first periodic signal and the input second periodic signal; the delay adjusting circuit comprises: a) judging means [14] for judging whether a phase of a predetermined rising edge of the output second periodic signal is behind a phase of a predetermined rising edge of the input first periodic signal, and b) delaying means [12, 20] for adjusting the delay time so that when the phase of the predetermined rising edge of the output second periodic signal is judged to be behind the phase of the predetermined rising edge of the input first periodic signal by the judging means, the predetermined rising edge

of the output second periodic signal matches a rising edge of the input first periodic signal, and a phase of the rising edge is behind and nearest to the phase of the predetermined rising edge of the output second periodic signal.

With respect to claim 5, Lu discloses, in Figures 1 and 7A-C; and col. 8, lines 5-10, a delay time adjusting circuit and a respective method for adjusting a delay time of an input [ICLK] signal so that a phase of the input signal and a phase of an output signal [DCLK] match each other based on a comparison between the phases of the input signal and the output signal; the delay time adjusting circuit comprises a) detecting means [14] for detecting a phase difference between the phase of the input signal and the phase of the output signal, and b) delaying means [12, 20] for increasing a delay time of the phase of the output signal when starting the delay time adjustment.

With respect to claim 7, as best understood, Figures 1 and 7A-C of Lu show a delay time adjusting circuit for adjusting a delay time of an input [ICLK] first periodic signal so that a phase of the input first periodic signal and a phase of an output [DCLK] second periodic signal match each other based on a comparison between phases of the input first periodic signal and the input second periodic signal; the delay time adjusting circuit comprises a) delaying means [12,20] for delaying the input first periodic signal so as to generate the output second periodic signal, b) a phase-detecting means [14] for detecting whether a phase of a predetermined rising edge of the output second periodic signal is behind a phase of a first rising edge of the input first periodic signal, and c) adjusting means [18] for controlling the delaying means so that when the phase of the predetermined rising edge is judged to be behind the phase of the first rising edge by the detecting means, the delaying means delays the phase of the output second periodic signal until

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the phase of the determined rising edge and a phase of a second rising edge of the input first periodic signal match each other, and the second rising edge is one period behind the first rising edge, wherein the steps of delaying, phase-detecting and adjusting are irrespective of the comparison when starting the delay adjustment.

With respect to claim 8, Figures 1 and 7B-C of Lu show that the adjusting means [18] controls the delaying means [12, 20] so that, after the phase of the predetermined rising edge and the phase of the second rising edge match each other, the phase of the predetermined rising edge and the phase of the second rising edge match each other all the time within a tolerable range.

### ***Remarks***

8. With respect to the Applicant's arguments on claims 1 and 2, at page 5, first and second paragraphs, regarding a signal which indicates a start of adjusting the delay time, the examiner finds that the argument is now moot in view of a new ground of rejection (see the 102(b) rejection for details).

With respect to the Applicant's arguments on claims 3,4, and 6-8, starting on page 2, fourth paragraph, regarding "*adjusting of said delay is irrespective of said comparison when starting the step of adjusting of said delay*"; the Examiner finds that it is moot since it is confirmed by the Applicant that the adjusting step does depend on the comparison [out] not *irrespective of said comparison* as stated in the last line of page 5 "Initially, if the signal "out" is "H" when ...".

With respect to the Applicant's argument on claims 3-7, at page 5 and at page 7, both on last paragraph, the examiner finds that it is moot since a) the claim recitation lacks a means to carry out a step of comparison prior to the step of adjusting (*claim 3*) and b) the specification is

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non-enabled in performing a step of adjusting of the delay irrespective of the comparison when starting the step of adjusting of the delay (*claims 4-7*).

*Inquiry*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (703) 305-0414. The examiner can normally be reached on Alternate Mon, Tuesday - Friday from 7:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P Callahan can be reached on (703) 308-4876. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Linh M. Nguyen  
Examiner  
Art Unit 2816

LMN

